

INVITATION TO BID
City of North Little Rock, Arkansas
Joe Smith, Director of Commerce and Government Affairs
120 Main, P.O. Box 5757, North Little Rock, AR 72119

BID NUMBER: 10-2977 DATE ISSUED: APRIL 8, 2010

DATE & TIME OF BID OPENING: TUESDAY, APRIL 27, 2010 @ 10:00 A.M.

F.O.B.: _____ BUYER: VICKY MILES @ 501-975-8882

CONTRACT PERIOD/ DATE DELIVERY REQUIRED: _____

BIDDER'S GUARANTEED DELIVER DATE: _____

"MURRAY HYDROELECTRIC PLANT CHILLER"

UNIT BID PRICE \$ _____

MANUFACTURER/MODEL _____

SPECIFICATIONS ARE ATTACHED. ANY BID THAT MEETS OR EXCEEDS THESE SPECIFICATIONS WILL BE CONSIDERED.

UNIT BID MUST BE NEW AND THE LATEST MODEL AVAILABLE FROM MANUFACTURER. DETAILED, DESCRIPTIVE LITERATURE REGARDING UNIT BID MUST ACCOMPANY BID.

ANY QUESTIONS REGARDING THE BID SHOULD BE DIRECTED TO BOB REYNOLDS, NLR ELECTRIC DEPARTMENT, 501-975-8768.

NOTE: FAILURE TO FILL OUT AND SIGN THE INVITATION TO BID SHEET WILL RESULT IN REJECTION OF THE BID.

EXECUTION OF BID

Upon signing this Bid, the bidder certifies that they have read and agree to the requirements set forth in this bid proposal, including specifications, conditions and pertinent information regarding the articles being bid on, and agree to furnish these articles at the prices stated.

NAME OF FIRM: _____ DATE: _____

PHONE NUMBER: _____ AR TAX PERMIT NO. _____

BUSINESS ADDRESS: _____

SIGNATURE OF AUTHORIZED PERSON & TITLE: _____

UNSIGNED BIDS WILL BE REJECTED

**TERMS AND STANDARD CONDITIONS
CITY OF NORTH LITTLE ROCK, ARKANSAS**

PLEASE READ CAREFULLY

1. When submitting an "Invitation to Bid," the bidder warrants that the commodities covered by the bid shall be free from defects in material and workmanship under normal use and service. In addition, bidder must deliver new commodities of the latest design and model, unless otherwise specified in the "Invitation to Bid."
2. Prices quoted are to be net process, and when an error is made in extending total prices, the City may accept the bid for the lesser amount whether reflected by extension or by the correct multiple of the unit price.
3. Discounts offered will be taken when the City qualifies for such. The beginning date for computing discounts will be the date of invoice or the date of delivery and acceptance, whichever is later.
4. When bidding other than the brand and/or model specified in the "Invitation to Bid," the brand and/or model number must be stated by that item in the "Invitation to Bid," and descriptive literature be submitted with the bid.
5. The City reserves the right to reject any and all bids.
6. The Purchasing office reserves the right to award items, all or none, or by line item(s).
7. Quality, time and probability of performance may be factors in making an award.
8. Bid quotes submitted will remain firm for 30 calendar days from bid opening date; however, the prices may remain firm for a longer period of time if mutually agreeable between bidder and the Department of Commerce and Governmental Relations.
9. Bidder must submit a completed signed copy of the front page of the "Invitation to Bid" and must submit any other information required in the "Invitation to Bid."
10. In the event a contract is entered into pursuant to the "Invitation to Bid," the bidder shall not discriminate against any qualified employee or qualified applicant for employment because of race, sex, color, creed, national origin or ancestry. The bidder must include in any and all subcontracts a provision similar to the above.
11. Sales or use tax is not to be included in the bid price, but is to be added by the vendor to the invoice billing to the City. Although use tax is not to be included in this bid, vendors are to register and pay tax direct to the Arkansas State Revenue Department.
12. Prices quoted shall be "Free on Board" (F.O.B.) to destination at designated facility in North Little Rock. Charges may not be added after the bid is opened.
13. In the event of two or more identical low bids, the contract may be awarded arbitrarily or for any reason to any of such bidders or split in any proportion between them at the discretion of the Department of Commerce and Governmental Relations.
14. Specifications furnished with this Invitation are intended to establish a desired quality or performance level, or other minimum dimensions and capacities, which will provide the best product available at the lowest possible price. Other than designated brands and/or models approved as equal to designated products shall receive an equal consideration.
15. Samples of items when required, must be furnished free, and, if not called for within 30 days from date of bid opening, will become property of the City.
16. Bids received after stated time for opening will not be considered.
17. Guarantees and warranties should be submitted with the bid, as they may be a consideration in making an award.
18. **CONSTRUCTION**
 - A. Contractor is to supply the City with evidence of having and maintaining proper and complete insurance, specifically Workman's Compensation Insurance in accordance with the laws of the State of Arkansas, Public Liability and Property Damage. All premiums and cost shall be paid by the Contractor. In no way will the City be responsible in case of accident.
 - B. When noted, a Certified check or bid bond in the amount of 5% of total bid shall accompany bid.
 - C. A Performance Bond equaling the total amount of any bid exceeding \$10,000.00 must be provided for any contract for the repair, alteration or erection of any public building, public structure or public improvement (pursuant to Act 351 or 1953 as amended by Act 539 of 1979).
19. **LIQUIDATED DAMAGES** - Liquidated damages shall be assessed beginning on the first day following the maximum delivery or completion time entered on this bid form and/or provided for by the plans and specifications.
20. **AMBIGUITY IN BID** - Any ambiguity in any bid as the result of omission, error, lack of clarity or non-compliance by the bidder with specifications, instructions, and all conditions of bidding shall be construed in the light most favorable to the City.
21. The bid number should be stated on the face of the sealed bid envelope. If it is not, the envelope will have to be opened to identify.
22. Whenever a bid is sought seeking a source of supply for a specified period of time for materials and services, the quantities of usage shown are estimated ONLY. No guarantee or warranty is given or implied by the participants as to the total amount that may or may not be purchased from any resulting contracts. These quantities are for the bidders information ONLY and will be used for tabulation and presentation of bid and the participant reserves the right to increase or decrease quantities as required.
23. The City of North Little Rock reserves the right to reject any and all bids, to accept in whole or in part, to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications in those cases where efficiency of operation will not be impaired, and unless otherwise specified by the bidder, to accept any item in the bid. If unit prices and extensions thereof do not coincide, the City of North Little Rock may accept the bid for the lesser amount whether reflected by the extension or by the correct multiple of the unit price.
24. Additional information of bid forms may be obtained from:
DEPARTMENT OF COMMERCE AND GOVERNMENT AFFAIRS
120 Main Street, P.O. Box 5757, North Little Rock, Arkansas 72119 (501) 975-8881

SPECIFICATIONS
MURRAY HYDROELECTRIC PLANT CHILLER
Instruction to Bidders

1. Preparation of Bid

Sealed bids for the "Murray Hydroelectric Plant Chiller" will be received by the City of North Little Rock, Arkansas, "Owner", at the Department of Commerce and Government Affairs, 120 Main, North Little Rock, Arkansas 72114 until 10:00 a.m. Tuesday, April 27, 2010, at which time and place all bids will be publicly opened and read aloud.

All proposals shall be submitted in a sealed envelope addressed to "City of North Little Rock, City Hall, North Little Rock, Arkansas", and marked "Murray Hydroelectric Plant Chiller". The name and address of the Bidder shall appear in the upper left hand corner of the envelope.

The bid must be inclusive of all work and materials necessary to deliver the generator to the City. North Little Rock will not accept partial or incomplete bids. A conditional bid will not be considered.

A bid which obviously is unbalanced may be rejected.

The bid must contain the signature of a duly authorized officer or agent of the Bidder's company empowered with the right to negotiate for and to bind the Bidder.

Bids must remain in effect for 60 days after the bid opening date.

2. Bid Information and Interpretation

Specifications and other design documents may be examined at the North Little Rock Electric Department, 8th and Main, North Little Rock, AR 72115. Copies of specifications will be provided free of charge to bidders submitting a written request to Bob Reynolds, System Engineer.

Requests for clarification or additional information regarding this request for proposal shall be made in writing to Bob Reynolds. Any inquiry received 48 hours prior to the opening of bids will be given consideration. Every request for additional information made by a Bidder will be held on file by North Little Rock and will be available to all Bidders upon request.

If a Bidder finds any inconsistency or ambiguity in the request for proposal, the Bidder should contact Bob Reynolds. Any clarification given may become an addendum to this request for proposal.

3. Site Inspection

Each Bidder is encouraged to visit the Murray Hydroelectric Plant and to become familiar with the layout. Requests for visits should be coordinated through Bob Reynolds at (501) 975-8768. It shall be the Bidders responsibility to obtain sufficient knowledge of the applicable laws, ordinances and regulations. The cost of any site visits required in preparation of the bid shall be the sole responsibility of the Bidder.

4. Collusion

A Bidder submitting a proposal to North Little Rock for the work contemplated herein shall not collude with any other person, firm, or corporation in regard to any bid submitted. The Bidder shall certify:

- a. That the bid response is genuine and is not made in the interest of, or in the behalf of, any undisclosed person, firm or corporation; and
- b. That no member of the Bidder's firm, or associated firm, has directly or indirectly induced or solicited any other respondent to put in a false or sham response; and

- c. That no member of the Bidder's firm, or associated firm, has solicited or induced any other person, firm or corporation to refrain from bidding; and
- d. That no member of the Bidder's firm, or associated firm, has sought by collusion to obtain for itself any advantage over any other respondent or over the representatives of the City of North Little Rock, Arkansas.

5. Subcontractors

Bidders have the option of subcontracting parts of the project they propose. If any part of the work is to be subcontracted, the Bidder shall provide within the bid a description of the subcontracting organization and the work they will perform. Before executing any subcontract, the successful Bidder shall submit the name of any proposed Subcontractor to Bob Reynolds, for prior approval. North Little Rock will consider the Bidder as the Prime Contractor, to be solely responsible in all contractual matters, including payment of any and all charges resulting from such subcontractor arrangements. The Bidder shall indemnify and hold harmless North Little Rock from any and all claims from Bidder subcontractors arising from the performance of project work.

6. Right to Reject Responses

North Little Rock reserves the right to reject any and all responses and to waive any formality in responses received, to accept or reject any or all of the items in the responses, and negotiate after responses are open with any respondent, if such action is deemed in the best interest of North Little Rock.

7. Presentations

Selected Bidders may be asked to present their responses to North Little Rock representatives in North Little Rock. The costs of such presentations shall be borne solely by the Bidder.

8. Non-Arkansas Corporations

In case a contract is awarded to a corporation outside the State of Arkansas, such corporation shall obtain authorization to do business in the State of Arkansas prior to project initiation.

The laws of the State of Arkansas shall govern the contract executed between the successful Bidder and North Little Rock, and any interpretations of constructions thereof. Further, the place of performance and transaction of business shall be deemed to be in Pulaski County, State of Arkansas, and in the event of litigation, the exclusive venue and place of jurisdiction shall be the State of Arkansas, and more specifically, Pulaski County, Arkansas.

9. Equal Opportunity

All contracts awarded by North Little Rock are subject to the following provisions:

- a. The contractor will not discriminate against any employee or applicant for employment because of race, color, sex, religion, national origin or age. The contractor will take affirmative action to ensure that applicants are employed and the employees are treated during employment without regard to their race, color, sex, religion, national origin or age. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; requirement of advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by an appropriate agency of the federal government setting forth the requirements of these nondiscrimination provisions.
- b. The contractor will state, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, that all qualified applicants will receive consideration for employment without regard to race, color, sex, religion, national origin or age.

10. Complete Service/Products

The respondent to which a contract is awarded shall be required to: (a) furnish all tools, supplies, superintendents, transportation and other execution accessories, services and facilities; (b) furnish all materials, supplies and equipment specified and required to be incorporated in and form a permanent part of the completed work; (c) provide and perform all necessary labor, and ; (d) in accordance with the requirements, stipulations, provisions and conditions of this request for proposal and the resultant contract, execute and complete all specified work.

11. Selection Process

Except for those materials specifically designated all materials submitted will automatically become the property of the City of North Little Rock, which reserves the right in its sole discretion to use without limitation on and all information, concepts, and data contained therein. Those materials clearly marked as proprietary will be held in strict confidence, with such materials of the unsuccessful Bidders being destroyed unless the Bidder submits in writing a request for its return.

All bids will be evaluate by a committee composed of North Little Rock Electric Department engineering staff. Proposals will be evaluated on the basis of costs; equipment performance, reliability, and functionality. The evaluation committee will consider the following criteria in evaluating Bidder proposals.

- a. Bidder's understanding of the project, as evidenced by responses to technical questions, including –
 - adherence to terms and specifications
 - scope of project
- b. Relevant experience of Bidder in projects of similar scope and schedule.
- c. Technical capacity to meet specifications as evidenced by –
 - personnel assigned
 - proposed project plan
 - subcontractor selection
 - previous experience

Proposals judged to be responsive to all major requirements of this request for proposal on an initial reading will be evaluated in detail. The City of North Little Rock reserves the right to reject any or all bids, to waive any informalities, and to accept the proposal deemed to be in the best interest of the City of North Little Rock.

"Technical Specifications for "Murray Hydroelectric Plant Chiller"

AIR COOLED - CHILLER

PART 1: GENERAL

1.01 SUMMARY

- A. Section includes design, performance criteria, refrigerants, and internal controls for air-cooled scroll compressor chillers.

1.02 REFERENCES

- A. Comply with applicable Standards/Codes of ARI 550/590-2003 ANSI/ASHRAE 15, ETL, CETL, NEC, and OSHA as adopted by the State.
- B. Units shall meet the efficiency standards of ASHRAE Standard 90.1, October 2001.

1.03 SUBMITTALS

- A. Submit shop drawings and product data in accordance with the specifications.
- B. Submittals shall include the following:
 - 1. Dimensioned plan and elevation view drawings, required clearances, and location of all field connections
 - 2. Summary of all auxiliary utility requirements such as electricity and water. Summary shall indicate quality and quantity of each required utility.
 - 3. Single line schematic drawing of the field power hookup requirements, indicating all items that are furnished.
 - 4. Schematic diagram of control system indicating points for field interface/connection.
 - 5. Diagram shall fully delineate field and factory wiring.
 - 6. Certification of factory-run test of chiller unit signed by company officer.
 - 7. Installation manuals.

1.04 QUALITY ASSURANCE

- A. Qualifications: Equipment manufacturer must specialize in the manufacture of the products specified and have five years experience with the type of equipment.
- B. Regulatory Requirements: Comply with the codes and standards specified.
- C. Chiller manufacturer plant must be ISO9002 Registered.

1.05 DELIVERY AND HANDLING

- A. Chillers shall be delivered to the job site completely and charged with refrigerant and oil by the manufacturer.
- B. Comply with the manufacturer's instructions for rigging and handling equipment.

1.06 WARRANTY

- A. The refrigeration equipment manufacturer's guarantee shall be for a period of one year from date of equipment start-up but not more than 18 months from shipment. The guarantee shall provide for repair or replacement due to failure by material and workmanship that prove defective within the above period, excluding refrigerant.

PART 2: PRODUCTS

2.01 UNIT DESCRIPTION

- A. Furnish factory-assembled, factory-charged, air-cooled, R-410A, scroll-compressor packaged water chiller. Chiller shall consist of hermetic tandem or triple scroll compressor sets (total four or six compressors), direct expansion evaporator, air-cooled condenser section, microprocessor-based control system and all components necessary for optimum full and part load operation.

2.02 DESIGN REQUIREMENTS

- A. Performance: Refer to performance outlined below. The chiller shall be capable of stable operation to a minimum of 50 percent of full load without hot gas bypass. Performance shall be in accordance with ARI Standard 550/590.
 - 1. Capacity (Tons): 62.3
 - 2. Performance (EER): 9.6
 - 3. Unit Power (KW): 77.9
 - 4. Evaporator Flow (GPM): 149.5
 - 5. Evaporator Pressure Drop (FTHD): 6.8
 - 6. Evaporator Temp in (degree F): 54
 - 7. Evaporator Temp out (degree f): 44
 - 8. Condenser Design Ambient (degree f): 95
 - 9. Condenser Minimum Ambient (degree f): 10

2.03 CHILLER COMPONENTS

- A. Compressors: The compressors shall be sealed hermetic, scroll type with crankcase oil heater and suction strainer. Compressor shall have a forced-feed lubrication system with a reversible oil pump and oil charge. The compressor motor shall be refrigerant gas cooled, high torque, hermetic induction type, two-pole, with inherent thermal protection on all three phases and shall be mounted on RIS vibration isolator pads.
- B. Evaporator
 - 1. Standard Package -
 - a. The evaporator shall be a compact, high efficiency, dual circuit, copper-brazed plate-to-plate type heat exchanger consisting of parallel stainless steel plates.
 - b. The evaporator shall be protected with an electric resistance heater and insulated with 3/4"(19mm) thick closed-cell polyurethane insulation. This combination shall provide freeze protection down to -20° F (-29° C) ambient air temperature.
 - c. The water-side working pressure shall be a minimum of 650 psig (4500 kPa). Vent and drain connections shall be provided in the inlet and outlet chilled water piping by the installing contractor. Evaporators shall be designed and constructed according to, and listed by, Underwriters Laboratories (UL).
- C. Condenser
 - 1. Standard Package Condenser -
 - a. The condenser coils shall consist of 3/8 inch (10mm) seamless copper tubes mechanically bonded into plate-type fins. The fins shall have full drawn collars to completely cover the tubes.
 - b. A sub cooling coil shall be an integral part of the main condenser coil. Condenser fans shall be propeller type arranged for vertical air discharge and individually driven by direct-drive fan motors. They shall be equipped with a heavy-gauge fan guard. Fan motors shall be TEAO, three-phase, direct-drive, 1140 rpm.
- D. Refrigerant Circuit
 - 1. Standard Package - The refrigerant circuit shall include a refrigerant filter-drier, sight glass with moisture indicator, liquid line solenoid valve (no exceptions), thermal expansion valve, and insulated suction line.
- E. Construction - Unit casing and all structural members and rails shall be fabricated of steel and painted to meet ASTM B117, 500-hour salt spray test.
- F. Control System - A centrally located weatherproof control panel shall contain the field power connection points, control interlock terminals, and control system. Power and starting components shall include factory circuit breaker of fan motors and control circuit, individual contactors for each fan motor, solid-state compressor three-phase motor overload protection, inherent fan motor overload protection and unit power terminal blocks for connection to remote disconnect switch. Terminals shall also be provided for power

supply to the evaporator heater circuit. Hinged access doors shall be lockable. Barrier panels or separate enclosures are required to protect against accidental contact with line voltage when accessing the control system.

- G. An advanced DDC microprocessor unit controller with a 4-line by 20-character liquid crystal display provides the operating and protection functions. The controller shall take pre-emptive limiting action in case of high discharge pressure or low evaporator pressure. The controller shall contain the following features as a minimum:
1. Equipment Protection - The unit shall be protected in two ways: (1) by alarms that shut the unit down and require manual reset to restore unit operation and (2) by limit alarms that reduce unit operation in response to some out-of-limit condition. Shut down alarms shall activate an alarm signal.
 2. Shutdown Alarms
 - a. No evaporator water flow
 - b. Sensor failures
 - c. Low evaporator pressure
 - d. Evaporator freeze protection
 - e. High condenser pressure
 - f. Outside ambient temperature
 - g. Motor protection system
 - h. Phase voltage protection
 3. Limit Alarms
 - a. Condenser pressure stage down, unloads unit at high discharge pressures
 - b. Low ambient lockout, shuts off unit at low ambient temperatures
 - c. Low evaporator pressure hold, holds stage #1 until pressure rises
 - d. Low evaporator pressure unload, shuts off one compressor
 4. Unit Enable Selection - Enables unit operation from either local keypad, digital input, or Building Automatic Control System.
 5. Equipment Protection - The unit shall be protected in two ways: (1) by alarms that shut the unit down and require manual reset to restore unit operation and (2) by limit alarms that reduce unit operation in response to some out-of-limit condition. Shut down alarms shall activate an alarm signal.
 6. Unit Mode Selection - Selects standard cooling, ice, glycol, or test operation mode
 7. Analog Inputs - Reset of leaving water temperature, 4-20 mA
 8. Digital Inputs
 - a. Unit off switch
 - b. Remote start/stop
 - c. Flow switch
 - d. Ice mode switch, converts operation and set points for ice production
 - e. Motor protection

9. Digital Outputs

- a. Shutdown alarm; field wired, activates on an alarm condition, off when alarm is cleared
- b. Evaporator pump; field wired, starts pump when unit is set to start

10. Condenser fan control - The unit controller shall provide control of condenser fans based on compressor discharge pressure.

11. Building Automation Control System Interface

- a. Factory mounted DDC controller(s) shall support operation on a BACnet®, Modbus® or LONMARK® network via one of the data link / physical layers listed below as specified by the successful Building Automation System (BAS) supplier.
- b. BACnet MS/TP master (Clause 9)
- c. BACnet IP, (Annex J)
- d. BACnet ISO 8802-3, (Ethernet)
- e. LONMARK FTT-10A. The unit controller shall be LONMARK® certified.
- f. The information communicated between the BAS and the factory mounted unit controllers shall include the reading and writing of data to allow unit monitoring, control and alarm notification as specified in the unit sequence of operation and the unit points list.
- g. For chillers communicating over a LONMARK network, the corresponding LONMARK external Interface File (XIF) shall be provided with the chiller submittal data.
- h. All communication from the chiller unit controller as specified in the points list shall be via standard BACnet objects. Proprietary BACnet objects shall not be allowed. BACnet communications shall conform to the BACnet protocol (ANSI/ASHRAE135-2001). A BACnet Protocol Implementation Conformance Statement (PICS) shall be provided along with the unit submittal.

2.04 OPTIONS AND ACCESSORIES

A. The following options are to be included:

- 1. Low ambient, variable speed, head pressure control to -10° F (-23° C)

2. High Ambient Control Panel for operation from 105°F up to 125°F ambient temperatures
3. The following accessories, if selected, are to be included:
 - a. Spring vibration isolators for field installation
 - b. Chilled water flow switch to be field mounted in the chilled water line and field wired to terminals in the control panel